

REMARKS

Claims 1 and 11 are amended. Claims 1-17, as amended, remain in the application with Claims 4, 8 and 13-17 withdrawn pending allowance of a generic claim. No new matter is added by the amendment to the claims.

The Rejections:

In the Office Action dated May 3, 2006, the Examiner rejected Claims 1-3, 5, and 7-10 under 35 U.S.C. 102(b) as being anticipated by Steele U.S. Patent No. 3255807.

Regarding Claim 1, the Examiner stated that Steele discloses: an apparatus for guiding a door leaf 22 of a sliding door comprised of guide elements 50, 52; a movable belt 40 engaging the guide element 50, 52, the movable belt 40 having a portion adapted for contact with a guide surface 38 associated with the door leaf 22 whereby when the guide element 50, 52 is mounted to extend generally parallel to a plane of the door leaf 22; and the portion of the movable belt 40 contacts the guide surface 38 during sliding of the door leaf 22 relative to the guide surface 38.

Regarding Claim 2, the Examiner stated that Steele further discloses the guide surface 38 is disposed in a region of a door frame 30 for the door leaf 22 and the guide element 50, 52 is attached to the door leaf 22.

Regarding Claim 3, the Examiner stated that Steele further discloses the guide surface 38 is disposed in the door leaf 22 and the guide element 50, 52 is attached to a region of a door frame 30 for the door leaf 22.

Regarding Claim 5, the Examiner stated that Steele further discloses guide element 50, 52 is a roller rotatably attached to the door leaf 22.

Regarding Claim 6, the Examiner stated that Steele further discloses the guide element holds the movable belt 40 against the guide surface 38.

Regarding Claim 7, the Examiner stated that Steele further discloses movable belt 40 seals against the guide surface 38 to prevent air leakage between opposite sides of the door leaf 22.

Regarding Claim 9, the Examiner stated that Steele further discloses movable belt 40 has resilient properties.

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Regarding Claim 10, the Examiner stated that Steele further discloses movable belt 40 has a laminated structure.

The Examiner rejected Claims 1-3, 5, 10 and 11 under 35 U.S.C. 102(b) as being anticipated by Julian et al. U.S. Patent No. 3798705.

Regarding Claim 1, the Examiner stated that Julian discloses: an apparatus for guiding a door leaf 10 of a sliding door comprised of guide elements 13, 14, 15, 16; a movable belt 17 engaging the guide element 13, 14, 15, 16, the movable belt 17 having a portion adapted for contact with a guide surface 20 associated with the door leaf 10 whereby when the guide element 13, 14, 15, 16 is mounted to extend generally parallel to a plane of the door leaf 10; and the portion of the movable belt 17 contacts the guide surface 20 during sliding of the door leaf 10 relative to the guide surface 20.

Regarding Claim 2, the Examiner stated that Julian further discloses the guide surface 20 is disposed in a region of a door frame 12 for the door leaf 10 and the guide element 13, 15 is attached to the door leaf 10.

Regarding Claim 3, the Examiner stated that Julian further discloses the guide surface 20 is disposed in the door leaf 10 and the guide element 13, 14, 15, 16 is attached to a region of a door frame 12 for the door leaf 10.

Regarding Claim 5, the Examiner stated that Julian further discloses guide element 13, 14, 15, 16 is a roller rotatably attached to the door leaf 10.

Regarding Claim 10, the Examiner stated that Julian further discloses movable belt 17 has a laminated structure.

Regarding Claim 11, the Examiner stated that Julian further discloses: a door 10 used in an elevator installation comprised of an elevator door leaf 10; guide element 13, 14, 15, 16 extending generally parallel to a plane of the at least one elevator door leaf 10; and a movable belt 17 engaging the guide element 13, 14, 15, 16, the movable belt 17 having a portion adapted for contact with a guide surface during sliding of the elevator door leaf 10 relative to the guide surface.

The Examiner rejected Claims 1-3, 5, 7, and 10 under 35 U.S.C. 102(b) as being anticipated by Prete U.S. Patent No. 5273363.

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Regarding Claim 1, the Examiner stated that Prete discloses: an apparatus for guiding a door leaf 12 of a sliding door comprised of guide elements 10; a movable belt 30 engaging the guide element 10; the movable belt 30 having a portion adapted for contact with a guide surface 14 associated with the door leaf 12 whereby when the guide element 10 is mounted to extend generally parallel to a plane of the door leaf 12; and the portion of the movable belt 30 contacts the guide surface 14 during sliding of the door leaf 12 relative to the guide surface 14.

Regarding Claim 2, the Examiner stated that Prete further discloses the guide surface 14 is disposed in a region of a door frame, shown in Figure 1 for the door leaf 12 and the guide element 10 is attached to the door leaf 12.

Regarding Claim 3, the Examiner stated that Prete further discloses the guide surface 14 is disposed in the door leaf 12 and the guide element 10 is attached to a region of a door frame for the door leaf 12.

Regarding Claim 5, the Examiner stated that Prete further discloses guide element 10 is a roller rotatably attached to the door leaf 12.

Regarding Claim 7, the Examiner stated that Prete further discloses movable belt 30 seals against the guide surface 14 to prevent air leakage between opposite sides of the door leaf 12.

Regarding Claim 10, the Examiner stated that Prete further discloses movable belt 30 has a laminated structure.

The Examiner rejected Claim 12 under 35 U.S.C. 103(a) as being unpatentable over Julian in view of Steele. The Examiner stated that Julian discloses another guide element extending generally parallel to the plane of the elevator door leaf and the movable belt engaging another guide element. The Examiner admitted that Julian is silent concerning movable belt being an endless belt. The Examiner stated that Steele teaches another guide element 50 extending generally parallel to the plane of a door leaf 22 and the movable belt 40 being an endless belt engaging another guide element 50 and it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the elevator door leaf disclosed by Julian et al. with an endless belt taught by Steele to increase the sliding distance of the door leaf.

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Applicant's Response:

The Examiner stated that Applicant's assertion that the "guide elements" extend perpendicular to the vertical planes of the associated panels and the contact surfaces of the "movable belt" also extend perpendicular to the vertical planes of the associated panels and therefore does not anticipate nor render obviousness is unpersuasive. The Examiner pointed out that Applicant clearly claims "guide element is mounted to extend generally parallel to a plane of the door leaf" in Claim 1 and "guide element extending generally parallel to a plane of said at least one elevator door leaf" in Claim 11. The Examiner noted that Applicant fails to define a vertical plane in either Claim 1 or Claim 11 but instead broadly recites "parallel to a plane of the door leaf" in Claim 1 and "parallel to a plane of said at least one elevator door leaf" in Claim 11, which are both anticipated by Steele and Julian.

Applicant's discussion of a "vertical" plane was based upon a comparison of the example elevator door shown in Applicant's Fig. 1 and the doors shown in the cited references. However, the sliding door does not have to be oriented in a vertical plane. Applicant amended Claim 1 to clarify that when the at least one guide element is mounted to extend generally parallel to a plane of the guide surface, the portion of the movable belt contacts the guide surface during sliding of the door leaf in a plane generally parallel to the plane of the guide surface. Applicant amended Claim 11 to clarify that the at least one guide element extends generally parallel to a plane in which the at least one elevator door leaf slides and the guide surface extends in a plane generally parallel to the plane in which the at least one elevator door leaf slides. The relationship of the planes of the claimed elements is shown in Figs. 1C and 6. Since a portion of the movable belt contacts the guide surface, that portion also extends in a plane parallel to the plane of the guide surface as shown in Figs. 1C, 2A, 2B, 3A, 3B and 6.

Steele shows a vertically extending door element 22 having a lower end 30 adjacent a threshold 38. A track member 40 is positioned intermediate the lower end 30 and the threshold 38. The track member 40 is in the form of a continuous loop engaging a pair of spaced end rollers 50. A plurality of smaller intermediate rollers 52 engages an inner surface of a lower pass 44 of the track member 40. The rollers 50, 52 and the inner contact surfaces of the track member 40 extend perpendicular to the plane in which the door element 22 moves in contrast to the parallel planar relationship recited in Claims 1 and 11.

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Julian shows vertically extending door 10 mounted for translational movement relative to a channel member 12. Positioned in the channel member is a first pair of rollers 13, 14 spaced from a second pair of rollers 15, 16. An elongated band member 17 has opposite ends fixed to the leg portion 20 of the channel member 12 and wraps around the rollers 13, 14, 15, 16. The rollers 13 and 15 are rotatably mounted on the door 10. An axis of rotation of each of the rollers 13, 14, 15, 16 and upper and lower planar contact surfaces of the band member 17 extend perpendicular to the plane in which the door 10 moves in contrast to the parallel planar relationship recited in Claims 1 and 11.

Prete shows a pair of rollers 10 for a vertically extending window 12 slidably mounted on a track 14. Each roller 10 has a housing 18 with a shelf 24 extending horizontally between a pair of vertical walls 20, 22. A belt 30 encircles the shelf 24 for non-sliding engagement with the track. The shelf 24 and inner contact surface of the belt 30 extend perpendicular to the plane in which the window 12 moves in contrast to the parallel planar relationship recited in Claims 1 and 11.

Thus all of Applicant's claims define the guide element and guide surface as extending parallel to the plane in which the door leaf slides. This relationship is important because, as stated in the specification on Page 1, at Lines 12-22, about the prior art:

The disadvantages of such doors with sliding door leaves reside particularly in that: the door leaves are not, or not sufficiently, guided and produce noises during their sliding, which can frequently be heard in remote areas of the building; the guide elements which serve for guidance of the door leaves during sliding thereof are subject to considerable wear; and the door leaves in closed state form only an unsealed or poorly sealed separation of the spaces connected by the door opening. This last-mentioned disadvantage is significant particularly in the case of shaft doors of elevator installations, since due to air currents, which are inevitable in an elevator shaft, a perceptible draft associated with a disturbing development of noise can be caused, for example, by the generally known "chimney effect" or by movements of an elevator car during travel through the shaft.

The present invention provides the advantages stated in the specification on Page 2, at Lines 23-31:

In addition, the guide means can be realized in such a manner that it serves as sealing means. This is of advantage particularly in the case of shaft doors of an elevator, since a reduced pressure or excess pressure frequently prevails in the

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elevator shaft, which has the consequence that air flows through the shaft doors. Apart from the fact that air currents of that kind can feel unpleasant, disturbing noises also thereby result. In the case of elevator installations with rapidly moving elevators the pressure differences are in part so large that the door leaves of a shaft door can be opened only with a high degree of force. Situations of that kind can be avoided by the guide elements according to the present invention.

As clearly seen in Figs. 1 and 3 of Steele, Fig. 1 of Julian, and Figs. 1 and 3 of Prete, all of the "guide elements" extend perpendicular to the planes in which the associated panels move and the contact surfaces of the "movable belts" also extend perpendicular to the planes in which the associated panels move. Therefore, the cited patents do not anticipate nor render obvious Claims 1-3, 5-7 and 9-12.

In view of the amendments to the claims and the above arguments, Applicant believes that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.

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